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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,655	03/30/2001	David B. Kramer	KRAMER 5-9	7660

27964	7590	06/14/2005

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JUNTIMA, NITTAYA

ART UNIT	PAPER NUMBER
2663	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 January 2005*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *15-21* is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 March 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the amendment filed on 1/24/2005.

2.   The objections to the specification and claims are withdrawn in view

of applicant's amendment.

3.   Claims 1-5 and 8-12 remain rejected under 35 U.S.C. 102(e).

4.   Claims 6-7, 13, and 14 remain rejected under 35 U.S.C 103(a).

5.   Claims 15- 21 are allowed.

Drawings

6.   The drawings are objected to because:

-   in Fig. 1, items 120-170 need descriptive text labels, for example item 140,

150, 160, 165, and 170 should be labeled as "router" to provide better understanding of the

invention;

-   in Fig. 2, items 220 "FPP", item 230 "RSP", and item 240 "SIP" should be spelled

out accordingly; and

-   in Fig. 3, item 318 "ALU" should be spelled out.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to

the Office action to avoid abandonment of the application. Any amended replacement drawing

sheet should include all of the figures appearing on the immediate prior version of the sheet,

even if only one figure is being amended. The figure or figure number of an amended drawing

should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

must be removed from the replacement sheet, and where necessary, the remaining figures must

be renumbered and appropriate changes made to the brief description of the several views of the

drawings for consistency. Additional replacement sheets may be necessary to show the

renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement

Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the

drawing figures. If the changes are not accepted by the examiner, the applicant will be notified

and informed of any required corrective action in the next Office action. The objection to the

drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8.   Claims 1-5 and 8-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Chow et

al. (USPN 6,052,387).

Per claim 1, as shown in Fig. 3, Chow et al. teach a virtual segmentation system

comprising:

A protocol data unit receiver subsystem (reads on the processor 34 and memory 36,

collectively) receives least a portion protocol data unit (data of a PDU is received by the

processor 34, col. 2, ll 65-col. 3, ll 3, 27-34) and store the at least a portion of the protocol data

unit in at least one block (since the data of the received PDU are stored in buffers, col. 3, ll 27-34 and col. 4, ll 66-col. 5, ll 1, therefore, a data portion of the PDU must be stored in at least one block, see also Figs. 4A and 5B).

A virtual segmentation system (the controller 30), associated with said protocol data unit receiver subsystem, performs virtual segmentation on said protocol data unit so as to segment said at least one block when retrieved (virtual segmentation is not defined, reads on the controller 30 retrieving the data stored on buffers and segmenting the data into ATM cells, col. 5, ll 1-3).

Per claim 2, Chow et al. further teach that said protocol data receiver subsystem further includes:

An assembler subsystem (the control of the software driver 40 in Fig. 3) receives said least a portion of said protocol data unit (data of a PDU) and assemble said protocol data. See col. 2, ll 65-col. 3, ll 1-3, 28-35, col. 4, ll 8-13, and Fig. 5B and col. 6, ll 13-21, 33-37.

A transmit queue subsystem (the software driver 40) maintains a linked associated with said protocol data unit, perform a function on said protocol data unit (process the PDU), and maintain least one queue structure transmission (a second data structure comprising a linked list). See col. 3, ll 48-52, and Fig. 4A, col. 4, ll 8-13 and 57-65.

Per claim 3, Chow et al. teach that the assembler subsystem (the control of the software driver 40 in Fig. 3) further stores said at least a portion of said protocol data unit (data of the PDU) in the at least one block (at least one buffer), and said transmit queue subsystem (the software driver 40) further maintains a linked list of said least one block (a linked list must be maintained until the last buffer descriptor is received). See col. 3, ll 28-35, 48-52, col. 4, ll 8-13, and Fig. 5B and col. 6, ll 13-21, 34-47.

Per claim 4, Chow et al. teach that the virtual segmentation system (the controller 30 in

Fig. 3) further includes a stream editor subsystem performs said virtual segmentation (the

controller 30 segments the data into ATM cells, therefore, it must include a stream editor

subsystem that performs segmentation, col. 3, ll 12-22).

Per claim 5, Chow et al. disclose that the stream editor subsystem (inherently included in

the controller 30, see rejection of claim 4) further converts between a first protocol (a higher

layer, e.g. an application program) and a second protocol (ATM). See col. 3, ll 28-35.

Claims 8-12 are method claims corresponding to system claims 1-5, respectively, and are

therefore rejected under the same reason set forth in the rejection of claims 1-5, respectively.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

10.   Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chow et

al. (USPN 6,052,387) in view of Richards et al. (USPN 6,614,793 B1).

Per claims 6 and 13, Chow et al. fail to teach that the stream editor subsystem further

generates a validity check selected from a group consisting of:

cyclic redundancy check (CRC),

asynchronous transfer mode (ATM) adaptive layer (AAL5) over ATM, and

CRC-10 cells for operation, administration, maintenance (OAM) cells.

However, Richards et al. teach generating generate a validity check (error check calculation) selected from a group consisting of: CRC (10-bit CRC), AAL5 over ATM (32-bit CRC), and CRC-10 for OAM cells (10-bit CRC), col. 18, ll 1-16 and 29-37, and col. 20, claim 2.

Given the teaching of Richards et al., it would have been obvious to one skilled in the art at the time the invention was made to include generating generate a validity check (error check calculation) selected from a group consisting of CRC (10-bit CRC), AAL5 over ATM (32-bit CRC), and CRC-10 for OAM cells (10-bit CRC) into the stream editor subsystem of Chow et al. The motivation/suggestion to do so would have been to perform an error check calculation on the ATM cell as taught by Richards et al. (col. 20, claim 2).

11.   Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chow et al. (USPN 6,052,387).

Per claims 7 and 14, Chow et al. do not explicitly teach that the protocol data unit receiver subsystem and said virtual segmentation subsystem further process a plurality of interleaved portions of different protocol data units.

However, Chow et al. teach that the PDU data are scattered in different buffers at different locations in the memory (col. 3, ll 31-35), and the data received by the software driver 40 at any given time may be a data portion of a new PDU or a data portion of an existing PDU (Fig. 5B and col. 6, ll 13-21.

Therefore, it would have been obvious to one skilled in the art to modify the protocol data unit receiver subsystem (the processor 34 in Fig. 3, see rejection claim 1) to include processing a plurality of interleaved portions of different protocol data units. The motivation/suggestion to such modification would have been to enable the system to process

portions of different PDUs immediately as received by the system in order to minimize the

overall data transmission delay.

Response to Arguments

12.   Applicant's arguments filed 1/24/2005 have been fully considered but they are not

persuasive.

A.   In the remarks, the applicant argued that Chow does not teach receiving at least a portion

of a PDU, storing the at least a portion of the PDU in at least one block and performing virtual

segmentation on the PDU so as to segment the at least one block when retrieved as recited in

independent claims 1 and 8.

In response, Chow clearly teaches receiving at least a portion of a PDU ("the processor

34 executes a software driver 40"..."the ATM PDU is delivered to the control of the software

driver 40...the data comprising the PDU...," col. 2, ll 65-col. 3, ll 3, 27-34, therefore, data of a

PDU is received by the processor 34), storing the at least a portion of the PDU in at least one

block (since the data of the received PDU are stored in buffers..."the data comprising the PDU

are scattered in different buffers....in the memory 36", col. 3, ll 27-34 and col. 4, ll 66-col. 5, ll

1, therefore, a data portion of the PDU must be stored in at least one block, see also Figs. 4A and

5B), and performing virtual segmentation on the PDU so as to segment the at least one block

when retrieved (virtual segmentation is not defined, reads on the controller 30 retrieving the data

stored in the buffers and segmenting the data retrieved from the buffers into ATM cells..."The

controller 30 can locate the data of the PDU, retrieve the data, segment the data into ATM cells,"

col. 5, ll 1-3) as recited in independent claims 1 and 8.

It is noted that the features upon which applicant relies (i.e., the virtual segmentation on the PDU is performed without receiving all of the data of the PDU) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Therefore, the rejection is sustained. In addition, the applicant failed to point out an error in the motivation in the rejection of claims 6, 7, 13, and 14, therefore, their rejection is also maintained.

Conclusion

13.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nittaya Juntima whose telephone number is 571-272-3120. The examiner can normally be reached on Monday through Friday, 8:00 A.M - 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nittaya Juntima
June 10, 2005

RICKY NGO
PRIMARY EXAMINER

9/12/05